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the Author

A CONTRIBUTION TO PLASTIC SURGERY.

A CASE

OF

DESTRUCTION OF THE RIGHT HALF OF THE UPPER LIP, NEIGHBORING
PORTION OF THE CHEEK, AND ALA NASI.

REPAIRED BY

A SERIES OF AUTOPLASTIC OPERATIONS.

BY

GURDON BUCK, M. D.,

SURGEON TO NEW YORK HOSPITAL, ST. LUKE'S HOSPITAL, ETC. ETC.

EXTRACTED FROM THE
TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.



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JOHN MICHAELIS, æt. 11, of German parentage, resident of Jamaica, L. I., was admitted into St. Luke's Hospital in April, 1866. The loss of parts sustained in this case happened in the progress of an attack of fever, of which the mother of the patient gave the following account:—

In September of the preceding year the patient was taken sick of fever. She and her husband suffering at the same time from intermittent fever, the boy was cared for by neighbors coming in to help them. A physician in attendance gave him a good deal of medicine. After about two weeks salivation occurred, yellow spots showed themselves on the face, and sloughing invaded the right half of the upper lip and neighboring parts. At the expiration of ten weeks the parts had healed, leaving him in his present condition, which is as follows: The right half of the upper lip, neighboring portion of the cheek, and ala nasi are gone. The upper front teeth and neighboring gum surface of the right side are exposed. A supernumerary tooth, having the character of a canine tooth, emerges from the gum, entirely above the level of the other teeth, in the space between the outer incisor and canine, and is a conspicuous object in the disfigurement of the face. The neighboring surface above these teeth is incrustated with a brownish scab, from beneath which healthy pus escapes on pressure. A semicircular notch remains where the ala nasi has been destroyed; the upper margin of the notch corresponds to the lower edge of the os nasi, and adheres closely to it. The septum and columna are entire. The cicatrized margin of the cheek bounding the deficient parts is closely adherent to the upper maxilla. The lower lip is lengthened out, stretching obliquely upward to the right, and terminating at the alveolar border of the upper jaw, where it is adherent to the gum between the two bicuspid teeth. From this point of adhesion a linear cicatrix one inch in length extends outward and a little

downward across the cheek, depressing the surface and adhering closely to the parts beneath. The median line divides the lower lip unequally, three-fifths of it lying on the right and two-fifths on the left side. The left half of the upper lip grows narrower in its vertical dimensions up to the point where its vermilion border terminates—that is, below and a little to the right of the *columna nasi*. The tissues bordering on the outline of the deficient parts are supple and healthy. The lower jaw is unrestricted in its motions. The patient's general health is good. The outer incisor, canine, and supernumerary canine teeth were extracted, preparatory to an operation.

Fig. 1 shows the face as just described.

First Operation.—May 18. Ether having been administered, the right extremity of the lower lip was divided at its point of adhesion by an incision extending downwards one inch in a direction at right angles to the free border of the lip (Fig. 1, *a* to *b*). From the end of this incision a second incision was carried on a line parallel with the border of the lip to a point in the median line of the chin (from *b* to *c*). In this way there was formed a quadrilateral flap of the entire thickness of the lip, which it was intended to fold edgewise upon itself and adapt at its free extremity to the left half of the upper lip. To effect this turn edgewise, it was necessary to divide the flap obliquely half across its base by an incision, *c, d*, extending a distance of an inch from the terminus *c* of the incision *b, c*, towards the left angle of the mouth. It was also necessary to divide the mucous membrane along the line where it is reflected from the jaw and lines the under lip and cheek on the left side as far as the last molar tooth. This permitted these parts to be stretched towards the right side, and thus facilitated the adjustment. After securing the bleeding vessels, the left half of the upper lip and neighboring cheek were detached in the same manner from the jaw upward towards the nose, and outward as far as the last molar tooth. This permitted the lip to be glided over to the right side. A strip of vermilion border was then pared off from below the *columna nasi*, of sufficient length to permit the fresh-cut edge of the upper lip to be adapted to the free extremity of the quadrilateral flap which had been prepared from the lower lip. This flap was now brought around edgewise and matched to the half of the upper lip, and the two secured in accurate apposition in such a manner as to form a vertical line of junction below the *columna nasi*. Two pin sutures, wound with cotton yarn, and

several fine thread sutures were used for the purpose. The next step was to advance the adjacent skin from the right cheek, and adjust it to the newly-transposed portion of the lower lip. This was done as follows: An incision commencing at the upper margin of the notch on the side of the nose was carried across the right cheek a distance of one and a quarter inch (*e* to *f*), and thence a second incision was extended downward in a curved line, with its convexity towards the ear, to a point within a thumb's breadth of the lower jaw (*f* to *g*). The quadrilateral flap of skin thus formed being dissected up from the subjacent parts and slid forward edge-wise, was matched by its anterior margin to the outer edge of the transposed lower lip, and their adjustment to each other was secured by two pin sutures and several thread sutures. In order to cover the denuded surface from which this cheek-flap had just been raised, the incision *e, f* was extended further outward to *h*, and the angle of integument *h, f, g* being dissected up, was stretched forward to fill the vacant space, and was there secured by thread sutures.

The mouth thus reconstructed presented a pouting, circular shape on the right side; the correction of this defect, however, was reserved for a subsequent operation. I ordered warm water-dressings for the face, and liquid nourishment, with stimulants, to be given through a tube. The patient's progress after the operation requires no special notice. The flaps at no time showed any deficiency of vitality; the inflammatory swelling was moderate. The sutures were taken out in succession, as they could be dispensed with. On the 28th day of May all had been removed, and the patient began to sit up out of bed.

Fig. 2 shows the result of the first operation.

Second Operation.—The patient having entirely recovered from the first operation, and all the parts being soundly healed, a second operation was undertaken, June 18, for the purpose of supplying the deficiency of the right ala nasi and neighboring portion of the cheek. This was to be attempted by transplanting a flap of skin from the forehead in the following manner: The edges of the opening on the right side of the nose were pared and dissected up from their adhesions, to facilitate their coaptation with the flap about to be inserted. An incision commencing on the right side of the tip of the nose, and bordering on the margin of the opening, was carried up along the dorsum, in a slightly oblique direction across the median line, to a point a little above the level of the

inner canthus of the left eye (Fig. 2, *a* to *b*). The skin on the right side of this incision was dissected up from the nose towards the cheek below, and to within about half an inch of the inner canthus above, and removed to make room for the flap about to be brought down from the forehead. Having thus defined the space *d, a, b*, to which the flap was to be transferred, a pattern of corresponding size, cut out of oiled silk, was laid upon the forehead in an inverted position, not vertically, but across the median line and inclining to the right side, to serve as a guide. An incision was then carried around its margin through the entire thickness of the scalp. The included triangular patch *b, e, f* was detached from the pericranium, except at its truncated apex, which was three-fourths of an inch broad, and which retained its connections above and close to the left supraorbital notch. Brought down and adjusted in its new position, the flap was found to adapt itself without any strain upon its neck at the point where the twist took place. Three pin sutures were inserted at equal distances along the dorsum nasi. At all other points of the circumference fine thread sutures were used at short intervals of space. The denuded surface on the forehead from which the flap had been removed was covered in by approximating the opposite edges of the wound, and securing the approximation by thread sutures and strips of adhesive plaster. A piece of gum-elastic catheter was inserted into the right nostril, to keep it open during cicatrization. The after-treatment was the same as in the first operation. The patient's subsequent progress was favorable. The transplanted flap retained its vitality, and united by first intention, except at its lower border, where it remained open for several weeks, but healed eventually by granulation. The wound on the forehead failed to heal by primary union; the edges, however, being kept approximated by adhesive plaster during the process of granulation, the resulting cicatrices were reduced almost to linear dimensions. Fig. 3 shows the result of the second operation. On the 31st of July the patient was allowed to return home, to recruit his health.

In September he returned to the hospital much improved in health and appearance. As the right half of the mouth still retained the circular and pouting shape it had acquired by the doubling of the under lip edgewise upon itself, it was proposed to correct this defect by giving an angular and more natural form to the mouth. Between the eyebrows also, where the flap from the forehead had been doubled upon itself, a bulging of the skin

remained which produced a conspicuous disfigurement of the face. This also was to be remedied.

Third Operation.—September 26, to improve the mouth. An incision was carried along the vermilion border around the right half of the mouth, extending about half way towards its left angle upon the upper and lower lip, but without dividing the entire thickness of the lip (Fig. 3, *a* to *b*). A double-edged knife was then inserted flatwise between the skin and subjacent mucous membrane of the cheek, and carried outward in the direction in which the mouth was to be enlarged so as to detach the mucous membrane from the cheek to the distance of an inch. With a pair of strong scissors the cheek was first divided through the skin in a line continuous with the commissure of the mouth (from *d* to *c*), and then the subjacent mucous membrane was divided to nearly the same extent. A single stitch being inserted into both angles, they were accurately brought together and secured. The split edges of the skin and mucous membrane above and below were then pared in such a manner as to allow the mucous membrane to overlap the skin. Fine thread sutures inserted close together were employed to secure this adjustment. This procedure had the intended effect of removing the pouting shape, and restoring the angular form of the mouth. To remove the bulging between the eyebrows, the redundant portion of skin was included between two curved incisions meeting at their extremities, and forming an elliptical-shaped figure, with its long axis in the median line (*e* to *f*). The patch being removed, the edges of the wound were brought together and secured by fine thread sutures. Both operations were followed by primary union, and require no further notice.

Fourth Operation.—Although a great improvement in the patient's appearance had been effected by the several operations already performed, there still remained a very serious defect, resulting from the cicatrices in the right cheek binding the jaws together, and scarcely permitting a separation of half an inch between the teeth in front. A strong vertical band of mucous membrane on the inside of the cheek, and close to the right angle of the mouth, presented the chief resistance to the separation of the jaws; and inasmuch as the further extension of the angle of the mouth in this direction would render the mouth still more symmetrical in its proportions, it was thought advisable to perform a fourth operation, in the hope of increasing the mobility of the under jaw, and also of still further improving the shape of the mouth. The

operation was performed in July, 1868, at St. Luke's Hospital, in the same manner as described in the preceding third operation. The cicatricial band in question was divided, and as a permanent result of the operation, the teeth could be separated to a distance of one inch in front whereby the taking of food was greatly facilitated.

December 26, 1868. Patient presented himself to-day for examination, and his condition is as follows: By the persevering use of wooden wedges inserted between the teeth, the mobility of the under jaw has been increased, and the teeth in front can now be separated more than one inch apart. The general appearance of the face has improved, and the cicatrices have become less conspicuous.

August 17, 1869.—Patient was examined again to-day. A still further relaxation of the cicatricial bands in the right cheek has taken place, and the mouth can now be opened almost to the normal extent, allowing complete freedom in taking food.

April 16, 1870.—The favorable condition as mentioned above continues. There is free motion of the lower jaw, and the appearance of the face is still improving. The drawing from which Fig. 4 was copied, shows his present condition.

NEW YORK, No. 46 West 29th St.,
May, 1870.









